

REMARKS

Claims 1, 2, 4-6 and 8-10 have been rejected by the Examiner under 35 U.S.C. 103(a) as being unpatentable over Childers et al. (US Pat. 6,227,638), in view of Purcell et al., (US Pat. 6,375,298). This rejection is respectfully traversed.

The present invention is directed to an ink tank for an ink jet printer, wherein the ink tank has an electronic memory for storing information with respect to the properties of the ink disposed in the ink tank. According to the present invention, the ink tank is fit into mounting socket of a printer for ensuring reliable electrical contact between the electronic memory of the ink tank and the circuitry of the printer. It is noted in Figures 1-3 of the present application, the ink tank (10) for the ink jet printer is adapted to be inserted in an essential horizontal movement into a mounting socket (16) which, as shown in Figure 2 is provided on a machine frame of the ink jet printer. The ink tank (10) has a coupling member (18) projecting from the front end wall near the bottom of the casing (12). When the ink tank is inserted into the mounting socket (16), the coupling member (18) engages with a mating coupling member (20) to establish a connection between the interior of the tank (10) and an ink supply line (22) of the printer. Thus, the ink tank assembly of the present invention, wherein the ink tank is inserted into the mounting jacket, requires the cooperation of various elements of the ink tank and the mounting socket for achieving a substantial horizontal insertion of the ink tank into the mounting socket. The weight of the ink tank and the ink contained therein is used to provide sufficient contact pressure between the memory button (44) and the electrical contacts of the mounting socket, to achieve a reliable electrical connection between the effective elements. Advantageously, a first upwardly biased spring contact is provided to engage the electronic memory device of the ink tank and a second spring contact is provided to engage a circumferential wall of the electronic memory device.

In rejecting the claims of the present application, the Examiner proposes to incorporate the teaching of Purcell et al. into the Childers et al. patent in an effort to establish obviousness.

However, there is no reason why one skilled in the art would be lead to incorporate the teachings of the Purcell et al. patent in the ink delivery system of the Childers et al patent for the purpose of minimizing the mechanical interference between the memory element and the print cartridge when the carriage is installed. Thus, the ink tanks (12) disclosed by Childers et al. are disposed remote from the scanning carriage (44) which carries the print heads (16). In the Childers et al. patent, ink is transferred from the ink tank (12) to the print heads (16) via a fluid conduit (21). (Please see in this regard Figs. 1 and 2 in column 3, lines 34-46 of the present application). In the printing operation, the print carriage (44) performs swaths, while the ink tanks (12) are immobile. Since the ink tanks and the carriage are not moving as one entity, there is no problem relating to mechanical interference between the memory element of the ink tank and the print carriage. Because the problem does not exist, one skilled in the art would have no incentive to incorporate the teachings of Purcell et al patent into the Childers et al. patent.

Moreover, in the penultimate paragraph on page 3 of the Office Action, it appears that the Examiner's analysis of the arrangement of the ink cartridge disclosed by the Purcell et al. patent is incorrect. In particular, the electronic memory device (78) is not provided at a bottom side of a casing (92). Please refer in this regard to Figure 3, column 6, lines 1-5 of the Purcell et al. patent. The memory element (78) is provided at the side (98) which is the rear surface of the cartridge where as the jet plate (72) is provided at the bottom surface (94) thereof. The term "bottom surface" refers to a location in a mounting position of the cartridge. While said bottom surface is a well-suited location for a jet plate, it is not suitable for placing a memory device in this type of cartridge which already contains a jet plate. In fact, if the memory device was positioned at the bottom surface, undesirable effects would occur such as a disturbance of the position of the bottom surface and the jet plate with respect to the horizontal plane.

In a further feature of the present invention, the spring contact (46) is upwardly biased against the bottom wall (56) of the button (44) so that the weight and tilting movement of the ink tank (10) contributes to the contact pressure between the spring contact (46) and the bottom wall (56). Another spring contact (48) is biased against the circumferential wall (54) of the button (44) in a direction opposite to the direction in which the coupling members (18) and (20) are

engaged with one another. In this way, the spring contact (46 and 48) established a reliable electrical contact between the memory device (60) and the circuitry of the printer to which the spring contacts (46 and 48) are connected. It is believed that neither the Childers et al. or Purcell et al. patents teach the corporation of elements together with the horizontal mounting of the ink tank in the mounting socket for achieving a reliable electrical contact between the memory device (60) and the circuitry of the printer as defined by claims 1, 2, 4-6 and 8-10 in the present application.

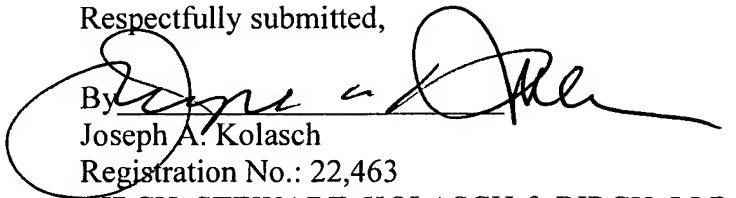
If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37.C.F.R. §§1.16 or 1.14; particularly, extension of time fees.

If the Examiner has any questions concerning this application, the Examiner is requested to contact Joseph A. Kolasch, Reg. No. 22,463 at the telephone number of (703) 205-8000.

Accordingly, in view of the above remarks reconsideration of the rejection allowance to claims to the present application.

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Respectfully submitted,

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